

PRODUCT DATA SHEET

SikaEmaco® N 3850 Marine

High-performance, anti-washout, cementitious repointing mortar specially formulated for tidal / coastal work (also suitable for freshwater applications)

PRODUCT DESCRIPTION

Designed to be applied with a mortar gun, SikaEmaco® N 3850 Marine is a specialist, cementitious, mechanical repointing mortar with anti-washout properties. Suitable for marine and freshwater applications, it can be applied between tides, achieving an early initial set and providing a high strength finish. SikaEmaco® N 3850 Marine can be injected into joints as narrow as 8 mm and will penetrate to a depth in excess of 50 mm, completely filling the deepest of joints. SikaEmaco® N 3850 Marine exceeds the properties of a Class 1 mortar as defined in BS 5628.

USES

- Coastal and freshwater masonry repair work.
- Repointing and repairing:
 - Gated water control structures
 - Docks
 - Weirs
 - Sea walls
 - Sea defences
 - Piers
 - Lighthouses
 - Jetties
 - Slipways
 - Spillways
 - Flood walls
 - Dams
 - Canal walls
 - Locks
 - Bridges

- Culverts
- Flumes
- Siphons
- Outfalls
- Screens
- Pumping stations and intakes
- Fishpasses
- Tidal barriers

CHARACTERISTICS / ADVANTAGES

- Easy to mix - just add water.
- Simple and quick to apply with a standard mortar gun.
- Anti-washout properties.
- Can be placed under water.
- Very low water absorption.
- Completely fills joints.
- Suitable for joints as narrow as 8mm.
- Will easily penetrate to depths in excess of 50mm.
- Seawater resistant.
- Wide application temperature range.
- Fast-setting.
- 'Chloride free'.
- No primer required.
- Excellent freeze-thaw resistance.
- Provides a high strength, durable, long-lasting finish.
- Euroclass A1 reaction to fire classification.

APPROVALS / STANDARDS

CE marking and declaration of performance based on EN 998-2: Specification for mortar for masonry - Masonry mortar.

PRODUCT INFORMATION

Chemical Base	Portland cement, selected silica sands and synergistic additives		
Packaging	25 kg bag		
Appearance / Colour	Grey powder		
Shelf Life	6 months from date of production		
Storage Conditions	The Product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +35 °C. Always refer to the packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.		
Density	~2050 kg/m ³		
Maximum Grain Size	~0.5 mm		
Soluble Chloride Ion Content	≤0.05 %		(EN 1015-17)
Compressive Strength	Age	Compressive Strength	(EN 1015-11)
	3 Days	~15 N/mm ²	
	7 Days	~20 N/mm ²	
	28 Days	~30 N/mm ²	
	NOTE: Completed in a controlled laboratory environment at +20°C.		
Tensile adhesion strength	≥1.5 N/mm ²		(EN 1542)
Reaction to Fire	Euroclass A1		(EN 13501-1)
Permeability to Water Vapour	50-121μ		(EN 1745 Table A.12)
Thermal Conductivity	P = 50% 1.15 [W/(m.K)] P = 90% 1.21 [W/(m.K)] (tab. value)		
Lap Shear Strength	0.37 N/mm ²		(EN 1052-3)
	NOTE: Initial shear strength.		
Water Absorption	0.1 kg/(m ² ·min ^{0.5})		(EN 1015-18)
Mixing Ratio	4.625 litres of water per 25 kg bag		
Yield	One 25 kg bag will produce ~16 litres of mixed mortar.		
Layer Thickness	8 mm minimum / 50 mm maximum		
Product Temperature	+5°C minimum / +35°C maximum		
Ambient Air Temperature	+5°C minimum / +35°C maximum		
Substrate Temperature	+5°C minimum / +35°C maximum		
Initial set time	~45 minutes (at +20°C)		

VALUE BASE

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

The substrate must be thoroughly clean, free from dust, loose material, surface contamination and material which reduce adhesion or prevent suction or wetting by repair materials. Delaminated, weak, damaged and deteriorated substrate, and where necessary sound substrate, must be removed by suitable preparation equipment.

SUBSTRATE PREPARATION

To ensure adequate bonding of the new mortar to the masonry, it is important that the old mortar is removed from the joints, to a minimum depth of twice the joint width. Prepared joints should be pressure washed to remove all dirt, vegetation and loose material. In wet or tidal areas, excess ('free') water should be allowed to drain off the structure prior to repointing, or removed (e.g. with sponges or compressed air).

MIXING

SikaEmaco® N 3850 Marine should be mixed using a high shear, handheld, paddle type mixer at a ratio of 6.25 litres of water per bag (mixing water should comply with BS EN 1008, as for concrete - do **NOT** use seawater). Use a hand brush and mixing water to wash down the sides of the mixing pan and tubes before adding the next bag of mortar to prevent build-up. Care should be taken to avoid any hardened lumps of mortar or debris falling into the mix as these will block the gun.

NOTE: Mixed mortar should be used immediately as the setting process is rapid.

APPLICATION

SikaEmaco® N 3850 Marine is designed to be applied with a mortar gun. Fill the tube of the gun to within 20 mm of the top and shake gently to dispel any air pockets. Keeping the nozzle slightly away from the wall, inject the mortar into the joints, slightly overfilling, working from the top of the wall downwards. The mortar should be tooled off using a pointing tool after it has formed a semi-dry surface skin and lost its initial sheen. The time this takes depends upon the absorbency of the masonry.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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Product Data Sheet

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